

Connecting via Winsock to STN

Welcome to STN International! Enter x:X

LOGINID:SSPTASXS1656

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* \* \* \* \* Welcome to STN International \* \* \* \* \* \* \* \* \*

NEWS 1 Web Page for STN Seminar Schedule - N. America  
NEWS 2 AUG 10 Time limit for inactive STN sessions doubles to 40 minutes  
NEWS 3 AUG 18 COMPENDEX indexing changed for the Corporate Source (CS) field  
NEWS 4 AUG 24 ENCOMPLIT/ENCOMPLIT2 reloaded and enhanced  
NEWS 5 AUG 24 CA/CAplus enhanced with legal status information for U.S. patents  
NEWS 6 SEP 09 50 Millionth Unique Chemical Substance Recorded in CAS REGISTRY  
NEWS 7 SEP 11 WPIDS, WPINDEX, and WPIX now include Japanese FTERM thesaurus  
NEWS 8 OCT 21 Derwent World Patents Index Coverage of Indian and Taiwanese Content Expanded  
NEWS 9 OCT 21 Derwent World Patents Index enhanced with human translated claims for Chinese Applications and Utility Models  
NEWS 10 NOV 23 Addition of SCAN format to selected STN databases  
NEWS 11 NOV 23 Annual Reload of IFI Databases  
NEWS 12 DEC 01 FRFULL Content and Search Enhancements  
NEWS 13 DEC 01 DGENE, USGENE, and PCTGEN: new percent identity feature for sorting BLAST answer sets  
NEWS 14 DEC 02 Derwent World Patent Index: Japanese FI-TERM thesaurus added  
NEWS 15 DEC 02 PCTGEN enhanced with patent family and legal status display data from INPADOCDB  
NEWS 16 DEC 02 USGENE: Enhanced coverage of bibliographic and sequence information  
NEWS 17 DEC 21 New Indicator Identifies Multiple Basic Patent Records Containing Equivalent Chemical Indexing in CA/CAplus  
NEWS 18 JAN 12 Match STN Content and Features to Your Information Needs, Quickly and Conveniently  
NEWS 19 JAN 25 Annual Reload of MEDLINE database  
  
NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4,  
AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.

NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS LOGIN Welcome Banner and News Items

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN customer

agreement. This agreement limits use to scientific research. Use for software development or design, implementation of commercial gateways, or use of CAS and STN data in the building of commercial products is prohibited and may result in loss of user privileges and other penalties.

FILE 'HOME' ENTERED AT 20:04:53 ON 26 JAN 2010

FILE 'MEDLINE' ENTERED AT 20:05:07 ON 26 JAN 2010

FILE 'SCISEARCH' ENTERED AT 20:05:07 ON 26 JAN 2010  
Copyright (c) 2010 The Thomson Corporation

FILE 'LIFESCI' ENTERED AT 20:05:07 ON 26 JAN 2010  
COPYRIGHT (C) 2010 Cambridge Scientific Abstracts (CSA)

FILE 'BIOSIS' ENTERED AT 20:05:07 ON 26 JAN 2010  
Copyright (c) 2010 The Thomson Corporation

FILE 'EMBASE' ENTERED AT 20:05:07 ON 26 JAN 2010  
Copyright (c) 2010 Elsevier B.V. All rights reserved.

FILE 'HCAPLUS' ENTERED AT 20:05:07 ON 26 JAN 2010  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'NTIS' ENTERED AT 20:05:07 ON 26 JAN 2010  
Compiled and distributed by the NTIS, U.S. Department of Commerce.  
It contains copyrighted material.  
All rights reserved. (2010)

FILE 'ESBIOBASE' ENTERED AT 20:05:07 ON 26 JAN 2010  
COPYRIGHT (C) 2010 Elsevier Science B.V., Amsterdam. All rights reserved.

FILE 'BIOTECHNO' ENTERED AT 20:05:07 ON 26 JAN 2010  
COPYRIGHT (C) 2010 Elsevier Science B.V., Amsterdam. All rights reserved.

FILE 'WPIDS' ENTERED AT 20:05:07 ON 26 JAN 2010  
COPYRIGHT (C) 2010 THOMSON REUTERS

=> S (aryldialkylphosphatase or a-esterase or aryltriphosphatase or (paraoxon hydrolase) or paraoxonase or phosphotriesterase or oph or (organophosphorus hydrolase) or (diisopropyl-fluorophosphatase) or carboxylase or (parathion hydrolase) or (organophosphate hydrolase)) (4A) activity  
9 FILES SEARCHED...

L1 17055 (ARYLDIALKYLPHOSPHATASE OR A-ESTERASE OR ARYLTRIPHOSPHATASE OR  
(PARAOXON HYDROLASE) OR PARAOXONASE OR PHOSPHOTRIESTERASE OR  
OPH OR (ORGANOPHOSPHORUS HYDROLASE) OR (DIISOPROPYL-FLUOROPHOSPH-  
ATASE) OR CARBOXYLASE OR (PARATHION HYDROLASE) OR (ORGANOPHASPA-  
TE HYDROLASE)) (4A) ACTIVITY

=> S Hydrolase (4A) activity

L2 18826 HYDROLASE (4A) ACTIVITY

=> S L1 (P) humidity

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'L7 (P) HUMIDITY'

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'L9 (P) HUMIDITY'

L3 24 L1 (P) HUMIDITY

=> S (aryldialkylphosphatase or a-esterase or aryltriphosphatase or (paraoxon hydrolase) or paraoxonase or phosphotriesterase or oph or (organophosphorus hydrolase) or (diisopropyl-fluorophosphatase) or carboxylase or (parathion hydrolase) or (organophosphate hydrolase)) (4A) humidity

L4 8 (ARYLDIALKYLPHOSPHATASE OR A-ESTERASE OR ARYLTRIPHOSPHATASE OR (PARAOXON HYDROLASE) OR PARAOXONASE OR PHOSPHOTRIESTERASE OR OPH OR (ORGANOPHOSPHORUS HYDROLASE) OR (DIISOPROPYL-FLUOROPHOSPHATASE) OR CARBOXYLASE OR (PARATHION HYDROLASE) OR (ORGANOPHOSPHATE HYDROLASE)) (4A) HUMIDITY

=> S (aryldialkylphosphatase or a-esterase or aryltriphosphatase or (paraoxon hydrolase) or paraoxonase or phosphotriesterase or oph or (organophosphorus hydrolase) or (diisopropyl-fluorophosphatase) or carboxylase or (parathion hydrolase) or (organophosphate hydrolase)) (P) humidity

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED ') (P) HUMIDITY'

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED ') (P) HUMIDITY'

L5 163 (ARYLDIALKYLPHOSPHATASE OR A-ESTERASE OR ARYLTRIPHOSPHATASE OR (PARAOXON HYDROLASE) OR PARAOXONASE OR PHOSPHOTRIESTERASE OR OPH OR (ORGANOPHOSPHORUS HYDROLASE) OR (DIISOPROPYL-FLUOROPHOSPHATASE) OR CARBOXYLASE OR (PARATHION HYDROLASE) OR (ORGANOPHOSPHATE HYDROLASE)) (P) HUMIDITY

=> S (aryldialkylphosphatase or a-esterase or aryltriphosphatase or (paraoxon hydrolase) or paraoxonase or phosphotriesterase or oph or (organophosphorus hydrolase) or (diisopropyl-fluorophosphatase) or carboxylase or (parathion hydrolase) or (organophosphate hydrolase)) (S) humidity

L6 59 (ARYLDIALKYLPHOSPHATASE OR A-ESTERASE OR ARYLTRIPHOSPHATASE OR (PARAOXON HYDROLASE) OR PARAOXONASE OR PHOSPHOTRIESTERASE OR OPH OR (ORGANOPHOSPHORUS HYDROLASE) OR (DIISOPROPYL-FLUOROPHOSPHATASE) OR CARBOXYLASE OR (PARATHION HYDROLASE) OR (ORGANOPHOSPHATE HYDROLASE)) (S) HUMIDITY

=> s l1 and l6

L7 11 L1 AND L6

=> duplicate

ENTER REMOVE, IDENTIFY, ONLY, OR (?) :remove

ENTER L# LIST OR (END) :17

DUPLICATE PREFERENCE IS 'SCISEARCH, BIOSIS, HCPLUS, NTIS'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N) :n

PROCESSING COMPLETED FOR L7

L8 9 DUPLICATE REMOVE L7 (2 DUPLICATES REMOVED)

=> d 18 1-9 bib ab

L8 ANSWER 1 OF 9 SCISEARCH COPYRIGHT (c) 2010 The Thomson Corporation on  
STN DUPLICATE 1

AN 1992:136042 SCISEARCH

GA The Genuine Article (R) Number: HE704

TI PHYSIOLOGICAL AND ANATOMICAL FEATURES OF 2 TRITICUM-DICOCCOIDES WHEAT  
ACCESSIONS DIFFERING IN PHOTOSYNTHETIC RATE  
AU KEBEDE H (Reprint); JOHNSON R C; CARVER B F; FERRIS D M  
CS OKLAHOMA STATE UNIV, DEPT AGRON, STILLWATER, OK 74078; WASHINGTON STATE  
UNIV, USDA ARS, PLANT INTRODUCT STN, PULLMAN, WA 99164  
CYA USA  
SO CROP SCIENCE, (JAN-FEB 1992) Vol. 32, No. 1, pp. 138-143.  
ISSN: 0011-183X.  
PB CROP SCIENCE SOC AMER, 677 S SEGOE ROAD, MADISON, WI 53711.  
DT Article; Journal  
FS AGRI  
LA English  
REC Reference Count: 25  
ED Entered STN: 1994  
Last Updated on STN: 1994  
\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*  
AB The wild tetraploid species *Triticum dicoccoides* (L.) Korn has many traits that may be useful to hexaploid wheat (*T. aestivum* L.). Two accessions of this species (PI 428042 and PI 428109) were found to have similar-sized leaves, but they differ by almost-equal-to 30% in net CO<sub>2</sub> assimilation per unit leaf area (A). We sought to identify physiological and anatomical factors that would explain the difference in photosynthetic rate between the two accessions, and between these accessions and the hexaploid wheat 'TAM W-101'. Photosynthetic responses to CO<sub>2</sub> (at 20 and 210 mL O<sub>2</sub> L<sup>-1</sup> air), light, and humidity, and also ribulose bisphosphate carboxylase (rubisco) activity and sucrose concentration, were determined on new fully expanded leaves of each genotype. Anatomical features associated with photosynthesis were determined using light and electron microscopy. PI 428109 showed consistently higher A than PI 428042 at varying levels of CO<sub>2</sub>, light, and humidity. Higher rubisco activity was observed in leaves of PI 428109 than PI 428042, as also indicated by a greater slope of the initial linear portion of the A vs. c(i) (intercellular leaf CO<sub>2</sub> concentration) curve. A higher sucrose concentration was observed in the leaves of PI 428042 than in PI 428109. No anatomical differences were detected between the two *T. dicoccoides* accessions. Therefore, photosynthetic differences between the two *T. dicoccoides* accessions were biochemically, and not anatomically, driven.

L8 ANSWER 2 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN  
AN 1991:161016 HCPLUS  
DN 114:161016  
OREF 114:27151a,27154a  
TI Decreased ribulose-1,5-bisphosphate carboxylase-oxygenase in transgenic tobacco transformed with antisense rbcS. II. Flux-control coefficients for photosynthesis in varying light, carbon dioxide, and air humidity  
AU Stitt, M.; Quick, W. P.; Schurr, U.; Schulze, E. D.; Rodermel, S. R.; Bogorad, L.  
CS Univ. Bayreuth, Bayreuth, W-8580, Germany  
SO Planta (1991), 183(4), 555-66  
CODEN: PLANAB; ISSN: 0032-0935  
DT Journal  
LA English  
AB Transgenic tobacco (*Nicotiana tabacum*) plants transformed with antisense rbcS to produce a series of plants with a progressive decrease in the amount of ribulose-1,5-bisphosphate carboxylase/oxygenase (Rubisco) have been used to investigate the contribution of Rubisco to the control of photosynthesis at different irradiance, CO<sub>2</sub> concns. and vapor-pressure deficits. Assimilation rates, transpiration, the internal CO<sub>2</sub> concentration  
and

chlorophyll fluorescence were measured in each plant. The flux-control coefficient of Rubisco was estimated from the slope of the plot of Rubisco content

vs. assimilation rate. The flux-control coefficient had a value of  $\geq 0.8$  in high irradiance, ( $1050 \mu\text{mol m}^{-2} \text{s}^{-1}$ ), low-vapor pressure deficit (4 mbar) and ambient CO<sub>2</sub> (350  $\mu\text{bar}$ ). Control was marginal in enhanced CO<sub>2</sub> (450  $\mu\text{bar}$ ) or low light ( $310 \mu\text{mol m}^{-2} \text{s}^{-1}$ ) and was also decreased at high vapor-pressure deficit (17 mbar). No control was exerted in 5% CO<sub>2</sub>. The flux-control coeffs. of Rubisco were compared with the fractional demand placed on the calculated available Rubisco capacity. Only a marginal control on photosynthetic flux is exerted by Rubisco until over 50% of the available capacity is being used. Control increases as utilization rises to 80%, and approaches unity (i.e. strict limitation) when more than 80% of the available capacity is being used. In low light plants with reduced Rubisco have very high energy-dependent quenching of chlorophyll fluorescence ( $q_E$ ) and a decreased apparent quantum yield. It is argued that Rubisco still exerts marginal control in these conditions because decreased Rubisco leads to increased thylakoid energization and high-energy dependent dissipation of light energy, and lower light-harvesting efficiency. The flux-control coefficient of stomata for photosynthesis was calculated from the flux-control coefficient of Rubisco and

the internal CO<sub>2</sub> concentration, by applying the connectivity theorem. Control by the stomata varies between zero and about 0.25. It is increased by increased irradiance, decreased CO<sub>2</sub> or decreased vapor-pressure deficit. Photosynthetic oscillations in saturating irradiance and CO<sub>2</sub> are suppressed in decreased-activity transformants before the steady-state rate of photosynthesis is affected. This provides of excess Rubisco. Comparison of the flux-control coeffs. of Rubisco with mechanistic models of photosynthesis provides direct support for the reliability of these models in conditions where Rubisco has a flux-control coefficient approach unity (i.e. limits photosynthesis), but also indicates that these models are less useful in conditions where control is shared between Rubisco and other components of the photosynthetic apparatus

OSC.G 62 THERE ARE 62 CAPLUS RECORDS THAT CITE THIS RECORD (62 CITINGS)

L8 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2010 ACS on STN  
AN 1991:244427 HCAPLUS  
DN 114:244427  
OREF 114:41185a,41188a  
TI Does air relative humidity during growth condition photosynthetic characteristics of coffee leaf?  
AU Nunes, Maria A.; Rijo, Paula S.  
CS Cent. Estud. Prod. Tecnol. Agric., Lisbon, Port.  
SO Curr. Res. Photosynth., Proc. Int. Conf. Photosynth., 8th (1990), Meeting Date 1989, Volume 4, 721-3. Editor(s): Baltscheffsky, Margareta. Publisher: Kluwer, Dordrecht, Neth.  
CODEN: 57BCAN  
DT Conference  
LA English  
AB Coffee plants (*Coffea arabica* cv. CATURRA) about two years old were placed in a growth room with artificial irradiance ( $150 \mu\text{mol m}^{-2}\text{s}^{-1}$ ) and low (50%) relative air humidity or in a greenhouse provided with natural light of similar irradiance but high relative air humidity (80%). Leaves from the greenhouse were less sclerophyllous and exhibited a photosynthetic rate 4 times higher and also higher conductances under the same irradiance. The initial slope of the relationship between net photosynthesis and internal CO<sub>2</sub> concentration was higher in leaves from the greenhouse, suggesting higher carboxylation efficiency. Accordingly, leaves from the greenhouse had higher contents of chlorophyll (+26% per

unit area) protein (+20% per unit area) and ribulose diphosphate carboxylase activity (3.5-fold per unit area). It is suggested that photosynthetic performance of coffee leaves is reduced by air humidity less than 50% during development.

L8 ANSWER 4 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN  
AN 1990:588324 HCPLUS  
DN 113:188324  
OREF 113:31799a,31802a  
TI Effect of temperature and humidity during growth on yield and photosynthetic characteristics of triticale  
AU Chugunova, N. G.; Tsyuryupa, S. N.; Karpilova, I. F.; Romanova, A. K.  
CS Inst. Soil Sci. Photosynth., Pushchino, USSR  
SO Fiziologiya Rastenii (Moscow) (1990), 37(4), 659-67  
CODEN: FZRSBV; ISSN: 0015-3303  
DT Journal  
LA Russian  
AB Growth and production relationships to photosynthetic and respiration rates and ribulose bisphosphate carboxylase/oxygenase (RBPC/O) activity were studied in a hexaploid type of amphidiploid Triticale, cv. Nemiga-2, grown at a day/night temperature of 28°/21° and 45% humidity (warm treatment), or at 22°/17° and 75% humidity (moderate treatment). In the moderate treatment, as compared with the warm one, there were delays in the onset of successive ontogenetic phases and in growth. The root/shoot dry weight ratio was higher in the moderate treatment. Grain yields were equal in both treatments. Negligible differences between the treatments were in rates of photosynthetic CO<sub>2</sub> exchange, in rate per unit of leaf surface, and in the carboxylase/oxygenase activity ratio of RBPC/O. However, both the activities and soluble protein (consisting mostly of RBPC/O) per unit leaf surface were higher in the moderate treatment. Appreciable differences between the treatments in total biomass accumulation were mainly due to longer life span and greater dimensions of leaves in the moderate treatment.

L8 ANSWER 5 OF 9 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN  
AN 1990:470926 BIOSIS  
DN PREV199090110346; BA90:110346  
TI STUDIES ON THE CONTROLLED ATMOSPHERE CA STORAGE OF FRUITS AND VEGETABLES X. EFFECT OF CARBON DIOXIDE IN STORAGE ATMOSPHERE ON THE METABOLISM OF ORGANIC ACIDS IN SATSUMA MANDARIN CITRUS-UNSHIU MARC FRUITS.  
AU TANAKA Y [Reprint author]  
CS AICHI-KEN AGRIC RES CENTER, NAGAKUTE, AICHI, JPN  
SO Research Bulletin of the Aichi-ken Agricultural Research Center, (1989) No. 21, pp. 253-262.  
CODEN: ANKHDV. ISSN: 0388-7995.  
DT Article  
FS BA  
LA JAPANESE  
ED Entered STN: 25 Oct 1990  
Last Updated on STN: 25 Oct 1990  
AB These studies were carried out to clarify the mechanism of synthesis and accumulation of organic acids in Satsuma mandarin, by measuring enzymatic activities relating to organic acid synthesis and the amount of <sup>14</sup>CO<sub>2</sub> fixation and <sup>14</sup>C in the components of the fruit during the growing and storing stage. The results obtained are as follows: 1. Enzymatic activities in skin and flesh of fruits were measured in each stage. The activities of isocitrate dehydrogenase, phosphoenolpyruvate carboxylase, citrate synthetase were higher in the juice of flesh vesicle tissue than the juice of skin's, while the activity of aconitase was almost same in both tissues. 2. The activity of citrate synthetase was observed similar

degree in both fraction of soluble and mitochondria those separated by centrifuging method, while the activity of malate dehydrogenase was higher in the soluble fraction and the activity of NAD dependent isocitrate dehydrogenase was higher in the mitochondrial fraction. 3. The change of enzymatic activities were measured with the fruits during growing and storing stage. The activity of NADP dependent isocitrate dehydrogenase was scarcely observed at early stage (July) of fruit growth, however it increased in accordance with the fruit development, and these tendency maintained during the first one month of storage at 0°C. The activity of malate dehydrogenase kept higher level at early stage, subsequently decreased to the lowest level at October with the development of the fruits. Thereafter increased again and reached to the peak one month after in storage. The activity of citrate synthetase increased throughout the stages of development and the first one month of storage. 4. The enzymatic activities were measured with the fruits which were mechanically shocked or stored in various circumstances. The activity of phosphoenolpyruvate carboxylase in the fruits shocked or stored at high temperature ( $> 30^{\circ}\text{C}$ ) and high relative humidity (100%) was lower as compared with those in the non-shocked fruits or the fruits stored at 3°C with humidity of 85%. The activity of isocitrate dehydrogenase was higher both in skin and flesh of fruits stored in high humidity than those in low humidity, and was higher in the skin of fruits stored in high concentration of CO<sub>2</sub> in atmosphere than the ones stored low CO<sub>2</sub> condition. While it was lower in the flesh of shocked fruits than non-shocked ones. 5. Fruits mechanically shocked or stored in various circumstances were laid in the dark room filled with atmosphere including 14CO<sub>2</sub> for 24 hours. After that the amount of 14C incorporated into soluble fraction fruits were measured. Total 14C activity in the flesh of fruits stored in high concentration of CO<sub>2</sub> or stored after shocked was lower than those stored in low CO<sub>2</sub> or non-shocked. 14C<sub>14</sub> activities in components of fruit which were separated by ion-exchange resins were measured. The activities were lower in the fraction of amino acids of fruit stored in high concentration of CO<sub>2</sub> and in the fraction of organic acids in the fruit shocked than others.

L8 ANSWER 6 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN  
AN 1985:451297 HCPLUS  
DN 103:51297  
OREF 103:8219a,8222a  
TI Effect of physiological state of lupine seeds and their treatment with gibberellin and 6-benzylaminopurine on the activity of ribulose diphosphate carboxylase  
AU Rusinova, N. G.; Dubrovskii, N. G.; Likholtat, T. V.; Doman, N. G.  
CS Inst. Biokhim. im. Bakha, Moscow, USSR  
SO Doklady Akademii Nauk SSSR (1985), 281(4), 1021-4 [Plant Physiol.]  
CODEN: DANKAS; ISSN: 0002-3264  
DT Journal  
LA Russian  
AB Soaking seed, aged for 2-4 days at 41° and 100% humidity, in 10 mg BAP/L or in 50 mg/L of gibberellins consisting mostly of gibberellin A3 partially restored germination and growth rate and the activity of ribulose diphosphate carboxylase in 10-day-old yellow lupine seedlings. The phytohormone treatments also restored the activity of endogenous gibberellins and cytokinins.

L8 ANSWER 7 OF 9 HCPLUS COPYRIGHT 2010 ACS on STN  
AN 1987:631337 HCPLUS  
DN 107:231337  
OREF 107:37071a,37074a  
TI Treatment of lupine and triticale seeds with growth regulators and the

activity of ribulose bisphosphate carboxylase from  
leaves of seedlings

AU Rusinova, N. G.; Doman, N. G.; Kosogova, T. M.; Dubrovski, N. G.;  
Likholt, T. V.

CS A. N. Bach Inst. Biochem., Moscow, USSR

SO Acta Universitatis Agriculturae, Facultas Agronomica (Brno) (1985), 33(3),  
163-5

CODEN: AUAB7; ISSN: 0524-7403

DT Journal

LA English

AB The level of endogenous phytohormones dropped in triticale and yellow  
lupine (*Lupinus luteus*) seeds aged at 40° and 100% relative  
humidity, and the activity of ribulose bisphosphate  
carboxylase and the content of soluble proteins in the leaves of  
11-day seedlings grown from the seeds decreased by 150-500 and 20-40%,  
resp. The neg. effects of seed aging can be removed by treatment of the  
seeds with gibberellins, 6-BAP, and hydrel.

OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L8 ANSWER 8 OF 9 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN  
DUPLICATE 2

AN 1980:199360 BIOSIS

DN PREV198069074356; BA69:74356

TI THE ACTIVITY AND MALATE INHIBITION STIMULATION OF PHOSPHOENOL PYRUVATE  
CARBOXYLASE IN CRASSULACEAN ACID METABOLISM PLANTS IN THEIR NATURAL  
ENVIRONMENT.

AU VON WILLERT D J [Reprint author]; BRINCKMANN E; SCHEITLER B; THOMAS D A;  
TREICHEL S

CS UNIV BAYREUTH, UNIVSITAETSTR 30, D-8580 BAYREUTH, W GER

SO Planta (Heidelberg), (1979) Vol. 147, No. 1, pp. 31-36.  
CODEN: PLANAB. ISSN: 0032-0935.

DT Article

FS BA

LA ENGLISH

AB The effect of environmental conditions, temperature, relative  
humidity and light, together with the regulation of PEPC  
(phosphoenolpyruvate-carboxylase) activity by malate  
and pH on CAM (crassulacean acid metabolism), was studied in members of  
the Mesembryanthemaceae (*Aridaria* sp., *Psilocaulon*, *Prenia sladeniana*) in  
their natural environment, the southern Namib desert (South Africa).  
During a 24 h period the characteristics of PEPC change. Before sunrise  
the activity is higher when measured at pH 7 than 8. With bright sunlight  
the activity measured at pH 7 drops to 20% of its pre-sunrise value, the  
activity only recovers gradually after malate disappearance and stays  
constant throughout the night. When measured at pH 8, PEPC shows an  
opposite behavior, i.e., activity increases in bright sunlight and  
declines as the pH 7 activity increases. A day-night oscillation in the  
capacity of malate to stimulate or inhibit PEPC was found. During the day  
malate inhibits about 90% of the PEPC activity at both pH 7 and 8. After  
sunset there is a sudden decrease in this inhibition and, at pH 8, malate  
stimulates the activity by 50%. At pH 7 the stimulation was less. Both  
stomatal conductance and malate formation increased only when the relative  
humidity at night rose to 80%. Changes in the properties of the PEPC  
coincided with the exposure to bright sunlight and changes in leaf  
temperature. The importance of these metabolic and environmental controls  
on the regulation of CAM in the Mesembryanthemaceae is discussed.

L8 ANSWER 9 OF 9 NTIS COPYRIGHT 2010 NTIS on STN  
AN 1983(18):05745 NTIS Order Number: DE83701753/XAB

TI Influence of the Nitrate Concentration and Source in the Incorporation  
of exp 14 CO sub 2 by the RuBP-Carboxylase from Wheat (Triticum

Aestivum) and Maize (*Zea Mays*).  
AU Garcia Pineda, M. D.; Saez, R. M.; Gines Diaz, M. J.  
CS Junta de Energia Nuclear, Madrid (Spain). (014974000 3485000)  
NR DE83701753/XAB; JEN-525  
75p; 1982  
DT Report  
CY Spain  
LA Spanish  
NTE In Spanish.  
AV U.S. Sales Only. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.  
NTIS Prices: PC A04/MF A01  
OS GRA&I8326; I1400  
AB The effect of the concentration and source of nitrogen in the culture media has been studied regarding its influence in the activity of the RuBP-carboxylase from wheat and maize during the first month of development. Wheat and maize has been chosen as plants representative of two different types of CO sub 2 assimilation: C3 and C4 respectively. Plants have been grown in hydroponic media and under temperature, humidity and nutrient salts control. A negative effect of NH sub 4+ has been observed in the enzymatic activity of wheat seedlings, this effect being more remarkable as NH sub 4+ concentration increases and as long the time of treatment. In our experimental conditions the most favorable source of nitrogen has been NO sub 3 NH sub 4+. The specific activity of the enzyme from wheat is about four times higher than in maize, even it decreases with time. This decreasing has not been observed in maize, with the exception of total absence of nitrogen in the media. We have not seen significant differences between the two photoperiods which have been tested. Also no differences have been found in the enzyme activities at the different NO sub 3 NH sub 4 concentrations assayed, and it seems that RuBP-carboxylase metabolism is only affected in the case of absolute stress. (Atomindex citation 14:731871)

=>  
<-----User Break----->

=> s 12 (3S) humidity  
L9 1 L2 (3S) HUMIDITY

=> d 19 bib ab

L9 ANSWER 1 OF 1 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN  
AN 1986:200170 BIOSIS  
DN PREV198681091470; BA81:91470  
TI OXYGEN CONSUMPTION OF AQUEOUS SUSPENSIONS OF WHEAT WHOLEMEAL BRAN AND GERM INVOLVEMENT OF LIPASE AND LIPOXYGENASE.  
AU GALLIARD T [Reprint author]  
CS RHM RESEARCH LTD, LORD RANK RESEARCH CENTRE, LINCOLN ROAD, HIGH WYCOMBE, BUCKS, HP12 3QR, UK  
SO Journal of Cereal Science, (1986) Vol. 4, No. 1, pp. 33-50.  
CODEN: JCSCDA. ISSN: 0733-5210.  
DT Article  
FS BA  
LA ENGLISH  
ED Entered STN: 28 May 1986  
Last Updated on STN: 28 May 1986  
AB The oxygen consumption values ( $\mu\text{mol O}_2/10 \text{ min per g}$  at  $25^\circ \text{ C}$ )

of aqueous suspensions of wheat wholemeal (0.1-3.0), bran (1-18) and germ (1-11) are substantially higher than those of white flours (0.01-0.03). The actual values depend upon storage history; the O<sub>2</sub> consumption value of materials stored 2-4 weeks at 20° C, 65% r.h. are many-fold higher than those of the same materials from freshly-milled grain. The O<sub>2</sub> consumption of mixtures of finely-ground (< 0.5 mm) bran and germ increases on storage more rapidly than that of bran or germ stored separately. The O<sub>2</sub> uptake is due primarily to oxidation of unesterified, polyunsaturated fatty acids, catalysed by lipoxygenase that is concentrated in the germ fraction. The increased O<sub>2</sub> demand of stored materials is due to higher levels of polyunsaturated fatty acids, released during storage, by hydrolysis of triacylglycerols, catalysed by a triacylglycerol hydrolase (lipase) that is concentrated in the bran fraction. The triacylglycerol-hydrolase activity of wheat germ is relatively low. Thus, O<sub>2</sub>-uptake by aqueous suspensions of wholemeal flour can be explained in terms of the combined effects of the bran component, causing lipolysis during storage of wholemeal, and the germ component, catalysing the O<sub>2</sub>-dependent peroxidation of polyunsaturated fatty acids when the wholemeal is added to water; both bran and germ components contribute triacylglycerols as the substrates for lipolysis.

=>  
<--